

CODE OF ETHICS

In all steps of a scientific research, the researcher must maintain integrity. Researchers will avoid any scientific misconduct or fraud, such as falsifying data or records, piracy or plagiarism, and using the works of other researchers. Such projects will fail to compete in Harmony Science & Engineering Fair (H-SEF).

ELIGIBILITY / LIMITATIONS

1. H-SEF is open to all students who are enrolled in 6th through 12th grade at any Harmony Public Schools campuses and other charter schools affiliated with HPS.

2. A project can qualify for H-SEF in two ways:

I. Direct Qualification from Harmony

Campus/Cluster Science Fairs:

A limited number of projects will directly qualify from Campus or Cluster Science Fairs. Those projects will be judged by their local fair organizations and qualify for H-SEF. While all applications are subject to pre-elimination process, those projects will forgo such screening by H-SEF's Scientific Review Committee. The invitation letters for selected students will be sent to the campus principals and project coordinators. The project coordinators will present these awards to the winners.

II. Individual Applications:

Individual projects that are not recognized thorough or represented at local fair organizations may also apply for H-SEF. H-SEF Scientific Review Committee will evaluate the projects and notify the students of their eligibility to participate in H-SEF.

3. The student should be under twenty-one years of age as of March 1 in the year of participation.

4. A student, or group of students, may not exhibit more than one project each year.

5. The project should be done in the last 12 months before participating in H-SEF.

6. The same project may not be re-entered unless it is a continuation to the project or changes have been made to it.

7. Team Projects: H-SEF will only cover the expenses (hotel accommodations, field trip expenses, and some meals) for two students in a team project. If there are more than two team members in a team the other team members are allowed to participate in H-SEF as long as they cover their own expenses. In this situation please contact us at h-sef@harmonytx.org.

GENERAL REQUIREMENTS

1. All students competing in H-SEF must adhere to the rules by H-SEF.

2. All projects must adhere to the Code of Ethics.

3. All participants should choose an experimental or investigative **project** in related areas defined in the **H-SEF Student Handbook**. Scientific methods should be followed in the research based project. The projects that are demonstrations, explanations of concepts, models, and kits are not appropriate for H-SEF.

4. A research project might be a part of a bigger study conducted by professional scientists but the participant can only present the portion of the study that he/she was involved in actively.

5. All students **MUST** register their projects online through H-SEF website and submit the required paperwork.

6. Also, the required paperwork should be completed by the students' project supervisors, parents, and adult supervisors to grant the student's presence in H-SEF.

7. All students must attend H-SEF with an adult supervisor. Adult supervisor might be a parent, a teacher, or a project supervisor.

8. The project supervisor should complete the **Risk Management Form** for projects involving vertebrate animals, biological agents, human subjects, hazardous chemicals, activities, and devices.

9. The students will submit their abstract and their research paper to complete the online registration process.

10. A copy of the projects' abstract will be handed out to the H-SEF judges prior to the judging session. Students are recommended to make their own copies of their research papers, project journals, and other items to display at their booth. These items are not mandatory but they are highly recommended.

11. Any continuing projects can participate at H-SEF. The projects will be judged only on their most current research. The display should reflect most recent research and its comparison to previous data. Students must complete **Project Continuation Form** for multi-year studies.

12. All team members should be fully involved with the project, know all aspects of the project. Judging criteria for team projects evaluates the coordinated efforts of all members.

13. All H-SEF exhibits must adhere to H-SEF safety and display requirements.

SAFETY GUIDELINES & INFORMATION

H-SEF adheres to all federal regulations and standards to ensure the safety and welfare of both the researcher and the subjects (humans, animals) involved in the project.

A project supervisor must complete the **Risk Management Form** for projects involving vertebrate animals, biological agents, human subjects, pathogens, animal tissues, hazardous chemicals, activities, and devices. The researcher and project supervisor should be familiar with these regulations before the experimentation or the research.

The following links should be consulted for students with projects involving these subjects or materials. The rules and procedures listed are the same as those practicing scientists must follow, thus we encourage project

supervisors to also use these links to ensure the lab safety and welfare. **Failure to follow these rules could result in disqualification of student projects.**

CHEMICALS AND CONTROLLED SUBSTANCES

Students should be aware that the Occupational Safety and Health Administration requires, to maintain Material Safety Data Sheets (MSDS 's) on all chemicals used or stored at the facility. In addition, the rules for handling, storage and disposal of these chemicals that can be found in the MSDS's must be followed. Free access to MSDS's can be found at

www.msdsonline.com.

Chemicals used in science fair projects should not be displayed in projects at the fair.

Students involved in projects using controlled substances, including U. S. Drug Enforcement Agency classed substances must acquire and use these chemicals according to local, state, and federal laws. The U.S. Drug Enforcement Agency website has a link to the list of DEA controlled substances at <http://www.dea.gov/>.

HAZARDOUS DEVICES, RADIATION AND LASER USE

The following guides and links are good resources to learn the regulations regarding the use of hazardous devices and radiation.

1. Radiation Manual from the Center of Disease Control (CDC):

www.cdc.gov/od/ohs/manual/radman.htm

2. Occupational Safety and Health Administration Documents available from: OSHA Publications *PUB 8-1.7 - Guidelines for Laser Safety and Hazard Assessment STD 1-4.1 - OSHA Coverage of Ionizing Radiation Sources Not Covered by Atomic Energy Act of 1954* www.osha.gov/.

3. S. Nuclear Regulatory Commission Material Safety and Inspection Branch www.nrc.gov/.

HUMAN SUBJECTS

Research on human subjects is governed by a number of federal regulations including:

(1) CFR Title 45 (Public Welfare) Part 46 -Protection of Human Subjects

(2) CFR Title 45 (Public Welfare) Part 5b -Privacy Act Regulations

(3) Public Health Service Act 42 U.S.C. S241 (d) - Protection of Privacy of Research Subjects

See the U. S. Office of Protection from Research Risks website (www.nih.gov/grants/oprr/oprr.htm/) for access to these documents and good resources and links on human subjects and animal research regulations, protocols and alternatives.

The main goal of these regulations is to insure that human research subjects are fully informed of the risks of being involved in research projects and given consent to the procedures knowing the risk (known as informed consent).

Informed consent should be obtained for all minors and for adults when more than minimal risk is involved in participating in the project. Minimal risk is defined as the probability of harm or discomfort anticipated in the research.

Other web resources:

Standards for Educational and Psychological Testing:
www.apa.org/science/testing.html/

NONHUMAN VERTEBRATE ANIMALS

Research on nonhuman vertebrates is governed by a number of federal regulations including:

(1) 7 U.S.C. 2131-2157-Animal Welfare Act

The main goal of this law is to ensure that animals involved in research are housed, transported, cared for, and euthanized in a responsible way that causes minimum pain or discomfort for the animals.

See the U. S. National Institutes of Health, Office of Protection From Research Risks website

(www.nih.gov/grants/oprr/oprr.htm/), or the U.S. Department of Agriculture, Animal Plant Health Inspection Service website

(www.aphis.usda.gov/ac/) for access to resources and links on the Animal Welfare Act and specific animal research regulations, protocols and alternatives.

PATHOGENS (INCLUDING BACTERIA, VIRUSES, FUNGI, PARASITES, VIROIDS, PRIONS):

Research on potential pathogens is governed by standards established by the U.S. Centers for Disease Control and the National Institutes of Health. These organizations publish the manual Biosafety in Microbiological and Biomedical Laboratories which is the standards for containment and safe handling of these organisms. The manual can be found on the CDC's Office of Health and Safety website at

www.cdc.gov/od/ohs/biosfty/biosfty.htm/.

Culture plates cannot be displayed in science fair projects, since they may contain harmful microorganisms.

Other web resources:

Bergey's Manual of Systematic Bacteriology:

www.cme.msu.edu/bergeys/bmsb.html/

Animal Tissue (including human):

See The U.S. Occupational Safety and Health Administration Standards at www.osha-slc.gov/OshStd_data/1910_1030.html/.

H-SEF DISPLAY AND SAFETY REGULATIONS

H-SEF Display and Safety Committee has the authority on display and safety issues for projects to compete in H-SEF. H-SEF Display and Safety Committee may require students to make revisions in their display to ensure safety regulations.

Maximum Size of Project Display at H-SEF

30 inches (76 centimeters) deep

48 inches (122 centimeters) wide

108 inches (274 centimeters) high from floor to top of project

These are maximum measurements, so your display may be smaller than this. Maximum project sizes include all project materials and equipment to present the project such as display board, models, kits, and devices. For each finalist project, H-SEF will provide a booth that includes a skirted table, 2 chairs, and a waste basket. Students will use the table to display their board. Students can bring their own pre-decorated display board to the fair.

If it is not possible, a three-fold display board will be available at exhibition area. You should come to the fair with pre-printed materials to prepare your board.

Items Not Allowed in the Exhibit Area

The exhibits must not include any of the following:

1. Microbial cultures or fungi, live or dead. Try photographs instead.
2. Displays of live animals.
3. Preserved vertebrate animals, whether whole or their parts (this includes humans). Teeth, hair, nails, and histological sections are permissible if properly acquired and form is filed.
4. Photographs showing vertebrate animals in any non-normal condition.
5. Open or concealed flames, matches, or lighters.
6. Hazardous chemicals and any household chemicals including water.
7. Highly combustible solids, fluids, or gases.
8. Sharp items (for example, syringes, needles, pipettes, knives)
9. Controlled substances.
10. Dry ice or other sublimating solids.
11. Radioactive materials.
12. Operating lasers.
13. Human or animal food.

14. Project sounds, lights, odors or any other display items must not be distracting.

15. Batteries with open-top cells.

16. High voltage equipment must be shielded with a grounded metal box or cage to prevent accidental contact. Wiring, switches, and metal parts must be located out of reach.

17. Electric circuits for 110 volts AC must have an underwriters laboratories approved card equipped with a grounded (3 pronged) plug. Exhibits are limited to 300 watts.

18. All wiring must be properly insulated.

19. Bare wire and exposed knife switches are permissible only in low voltage, low current circuit of 12 volts or less.

20. Electrical connections in 110 volt circuits must be soldered or fixed with approved connectors.

21. Devices emitting ultraviolet light must be equipped with the proper filters for eye protection

OTHER EXHIBIT AREA INFORMATION

1. Displaying a project data book and/or a research paper is not required but is recommended. Students should make their own copies to display such items.

2. All judges will have your abstract before the judging time so you do not have to make the copies of your abstract for H-SEF judges.

3. No food or drinks, except small containers of bottled water for personal consumption, are allowed in the exhibit hall.

4. No cell phones and pagers are allowed in the exhibit hall. Before you enter the exhibit hall, hand over your cell phone to H-SEF officials in the front desk. Cell phones and pagers found in the exhibit hall are confiscated by the Display and Safety Committee.

5. CD, MP3 Players, Games are allowed in the exhibit area as long as you do not distract others.

6. Note that under no circumstances are students allowed to remove their projects until after the close of the Awards Ceremony.